

## CLAIMS

We claim:

1. An apparatus for dissolving a solid material in a liquid, said apparatus comprising:
  - a container for receiving the solid material and the liquid;
  - a turbidimeter for measuring the turbidity of the liquid in said container;
  - a blender for stirring the liquid in said container;
  - a controller for selectively energizing said blender when the turbidity of the liquid in said container, as measured by said turbidimeter, drops below a predetermined level;
  - and,
  - a valve assembly for gauging the level of liquid in said container and admitting liquid into said container when the liquid level falls.
2. The apparatus according to claim 1 further comprising a light source for illuminating the interior of said container so that the quantity of solid material received therein can be visually gauged.
3. The apparatus according to claim 1 wherein said turbidimeter comprises:
  - a fluid lance extending downwardly from the top of said container, said fluid lance having a pair of tines with free ends placed in opposition to one another, said

fluid lance also having a pair of lenses in said free ends permitting light to pass through said free ends;

a light emitter being positioned within one of said tines for producing light for passage through the adjacent one of said lenses;

a light receptor being positioned in the other one of said tines and being connected to said controller for receiving light from said light emitter and producing a voltage signal in proportion to the amount of light detected and delivering said voltage signal to said controller.

4. The apparatus according to claim 3 wherein said light emitter is an LED producing a modulated visible red light.

5. The apparatus according to claim 4 wherein said light receptor is a phototransistor adapted to detect the light from said LED.

6. An apparatus for dissolving a solid material in a liquid, said apparatus comprising:

a container for receiving the solid material and the liquid;

means for measuring the turbidity of the liquid in said container; and,

means for stirring the liquid in the container until the turbidity thereof, as measured by said turbidimeter, reaches a predetermined level.

7. The apparatus according to claim 6 wherein said turbidity-measuring means includes:  
means for directing a beam of light through the liquid; and,  
means for converting the light directed through the liquid into a turbidity level.
8. An apparatus for dissolving a solid material in a liquid, said apparatus comprising:  
an open-topped container for receiving the solid material and the liquid;  
a lid atop said container;  
a turbidimeter secured to said lid for measuring the turbidity of the liquid in said container;  
a blender secured to said lid for stirring the liquid in said container until the turbidity thereof, as measured by said turbidimeter, reaches a predetermined level;  
a valve assembly secured to said lid for gauging the level of liquid in said container and admitting liquid into said container when the liquid level falls; and,  
a light source suspended from said lid for illuminating the interior of said container.